

Amendments to the Specification:

Please replace the following paragraph starting with “In order to solve the above and other problems,” on page 3, line 5-14 with the following amended paragraph:

In order to solve the above and other problems, according to a first aspect of the current invention, a method of constructing wireless telecommunication cells between base stations and subscriber stations, the base stations each having a cell, the cell having a predetermined number of sectors, including the steps: dividing each of the cells into four sectors around each of the base stations; assigning distinct communication signals in a substantially mirror-image pattern respectively to the four sectors at each of the base stations so that a common one of the distinct communication signals is assigned to at least a pair of adjacent adjacent ones of the sectors of the corresponding two adjacent ones of the cells; and transmitting within a predetermined directionality the assigned distinct communication singnals in each of the four sectors between the base stations and the subscriber stations in the corresponding cells.

Please replace the following paragraph starting with “According to a second aspect” on page 3, line 16-26 with the following amended paragraph:

According to a second aspect of the current invention, a wireless telecommunication system, including: base stations for wirelessly communicating via a predetermined number of distinct communication signals; four directional antennas located around each of the base stations for receiving receiving and transmitting the distinct communicaiton communication signals within a predetermined directionality for the base stations, the four directional antennas collectively defining a cell for a corresponding one of the base stations, each of the four directional antennas singularly defining a sector for the corresponding cell, at least a pair of adjacent adjacent ones of

the four directional antennas of the corresponding two adjacent ones of the base stations utilizing a common one of the distinct communication signals in a substantially mirror-image pattern; and subscriber stations located in the cell for wirelessly communicating with a corresponding one of the base stations on one of the distinct communication signals.

Please replace the following paragraph starting with "According to a third aspect" on page 3, line 28-32 and continuing on to page 4, lines 1-6 with the following amended paragraph:

According to a third aspect of the current invention, a wireless telecommunication system, including: base stations for wirelessly communicating via ~~four~~ distinct communication signals; ~~four~~ a plurality of directional antennas located around each of the base stations for receiving ~~receiving~~ and transmitting the ~~four~~ distinct communicaiton ~~communication~~ signals for the base stations, the ~~four~~ directional antennas collectively defining a cell for a corresponding one of the base stations, each of the ~~four~~ directional antennas having a limited directionality for singularly defining an equal one fourthportion of the cell as a sector, a pair of adjacent ~~adjacent~~ ones of the ~~four~~ directional antennas of the corresponding two adjacent sectors of the base stations utilizing a common one of the ~~four~~ distinct communication signals in a substantially mirror-image pattern; and subscriber stations located in the cell for wirelessly communicating with a corresponding one of the base stations on one of the distinct communication signals.

Please replace the following paragraph starting with "According to a fourth aspect" on page 4, line 8-18 with the following amended paragraph:

According to a fourth aspect of the current invention, a wireless telecommunication system, including: base stations for wirelessly communicating via ~~four~~ distinct communication signals; ~~four~~ a plurality of directional antennas located around each of the base stations for receiving ~~receiving~~ and transmitting the ~~four~~ distinct communicaiton ~~communication~~ signals for the

base stations, the four-directional antennas collectively defining a cell for a corresponding one of the base stations, each of the four-directional antennas having a limited directionality for singularly defining an equal one-fourthportion of the cell as a sector, ~~four of~~the plurality of said adjacent adjacent ones of the four-directional antennas of the corresponding four-adjacent ones of the base stations utilizing a common one of the four-distinct communication signals in a substantially mirror-image pattern; and subscriber stations located in the cell for wirelessly communicating with a corresponding one of the base stations on one of the distinct communication signals.

Please replace the following paragraph starting with “According to a fifth aspect” on page 4, line 20-30 with the following amended paragraph:

According to a fifth aspect of the current invention, a wireless telecommunication system, including: base stations for wirelessly communicating via four-distinct communication signals; ~~four~~a plurality of directional antennas located around each of the base stations for ~~receiving~~receiving and transmitting the four-distinct combinations of frequencies and polarized waves for the base stations, the four-directional antennas collectively defining a cell for a corresponding one of the base stations, each of the four-directional antennas having a limited directionality for singularly defining an equal one-fourthportion of the cell as a sector, ~~four~~the plurality of adjacent the adjacent ones of the four-directional antennas of the corresponding four adjacent ones of the base stations utilizing a common one of the four-distinct combinations of the frequencies and polarized waves in a substantially mirror-image pattern; and subscriber stations located in the cell for wirelessly communicating with a corresponding one of the base stations on one of the distinct communication signals.

Please replace the following paragraph starting with "Referring now to the drawings," on page 6, line 5-28 with the following amended paragraph:

Referring now to the drawings, wherein like reference numerals designate corresponding structures throughout the views, and referring in particular to FIGURE 1, a diagram illustrates a preferred embodiment of the wireless communication system according to the current invention. The diagram illustrates two-dimensional service areas for base stations B1 through B9 and frequencies F1 through F4 that are used for each sector. Although the sectors are placed with respect to north, south, east and west in the preferred embodiment, the sector placement is not limited to the above example. At the base station B 5, the frequencies F1, F2, F3 and F4 are respectively used in a north-western sector, a south-eastern sector, a north-eastern sector and a south-western sector. In the cells in the base stations B4 and B6 in the east and west directions of the cell B5, the frequencies of the east and west sides are switched in a mirror image. In other words, the base stations B4 and B6 each have a mirror sector arrangement of the base station B5 by switching the frequencies F1 and F3 as well as frequencies F4 and F2. Similarly, in adjacent cells in the north and south direction of the cell B5, the frequencies of the frequencies of the northern and southern sides are switched. In other words, the base stations B2 and B8 each have a mirror sector arrangement of the base station B5 by switching the frequencies F1 and F4 as well as frequencies F2 and F3. According to the above described rule for placing ~~each cell four of the four cells~~, the adjacent sectors of the adjacent cells use a common frequency as indicated by a dotted circular line in FIGURE 1. A fixed terminal station that is installed in each of the sectors does not interfere with other base stations by directing its communication signal to respective base stations. In other words, according to the above rule, sectors in the cells that are adjacent to the base station B5 in the north-eastern, north-western, south-eastern and south-western directions have ~~in the~~ frequencies in a mirror image along respective directions.

Please replace the following paragraph starting with "In the subscriber wireless system," on page 6, line 29-32 and continuing on to page 7, lines 1-5 with the following amended paragraph:

In the subscriber wireless access system, each of the fixed subscriber stations is required to have an antenna having over 20 dB according to the ARIB STD-T59 standard. Directional antennas such as parabolic antennas are generally used. Since the above high efficiency antennas have a narrow beam area, there is no interference among the four adjacent sectors that use the same frequency. For example, ~~when~~since the fixed subscriber station belonging to a sector using the frequency F1 ~~in the cell of the base station B5~~ is directed towards the base station B5, there is no interference with the sectors using the frequency F1 in the cells of the base stations B1, B2 and B4.

Please replace the following paragraph starting with "Now referring to FIGURE 4," on page 8, line 7-28 with the following amended paragraph:

Now referring to FIGURE 4, a diagram illustrates a second preferred embodiment of the wireless communication system using the sector frequencies in the base station according to the current invention. The frequencies F1 through F4 are used among the base stations B1 through B9. Although north, south, east and west are used to describe the relational positions in the second preferred embodiment, the placement in the second preferred embodiment is not limited to the above positional requirements. Around the base station B5, four sectors are designated as north, east, south and west, and each sector utilizes a predetermined frequency F1, F4, F2 or F3 in the above enumerated position. In the adjacent cells that are located in the east-west directions from the base station B5, the eastern and western sectors switch the frequencies. In other words, the base stations B4 and B6 each have the sector arrangement in their cell that the sectors using the frequencies F3 and F4 are switched in a mirror image. Similarly, in the adjacent cells in the

north and south directions from the base station B5, the northern and southern sectors switch their frequencies. In other words, the base stations B2 and B8 each have the sector arrangement in their cell that the sectors using the frequencies F1 and F2 are switched in a mirror image.

According to the above rule, cells are arranged in the second preferred embodiment. As indicated by a circular dotted line, a pair of adjacent sectors of the adjacent cells uses the same frequency. Fixed terminal stations in each sector are directed towards a corresponding base station, and no interference occurs with other base stations. In other words, according to the above rule, the cells adjacent to the base station B5 in the north-eastern, north-western, south-eastern and south-western directions have a mirror image frequency arrangement along the respective directions.

Please replace the following paragraph starting with "Now referring to FIGURE 4," on page 8, line 29-32 and continuing on to page 9, lines 1-17 with the following amended paragraph:

Referring to FIGURE 5, a diagram illustrates a third preferred embodiment of the wireless communication using the sector frequencies in the base station according to the current invention. The frequencies F1 and F2 are used among the base stations B1 through B9. At either of the frequencies F1 and F2, vertically polarized waves V and horizontally polarized waves H are combined. Although north, south, east and west are used to describe the positional relations, the third preferred embodiment is not limited to the above positional relations. At the base station B5, the cell is divided into four sectors including the north-western, north-eastern, south-eastern and south-western sectors, and the antennas are respectively directed toward the above four directions. The polarized frequencies F1V, F2V, F1H and F2H are respectively used in the above enumerated four sectors. As described with respect to the first preferred embodiment, the eastern and western sectors of the adjacent cells in the east-west directions are switched in a mirror image. Similarly, the northern and southern sectors of the adjacent cells in the north-south directions are also switched in a mirror image. According to the above rule, as indicated by a

circular dotted line, the adjacent sectors of the adjacent cells use the same frequency with the same polarity. Fixed terminal stations in each sector are directed towards a corresponding base station, and no interference is observed with other base stations. In other words, the cells adjacent to the base stations B5 in the north eastern, north western, south eastern and south western directions each have a mirror sector arrangement of the frequency and the polarity of the base station B5. alternatively Alternatively, right-handed circular polarized waves and left-handed circular polarized waves are used in lieu of the horizontal and vertical frequency waves.